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ABSTRACT

In order to determine the relationship between teacher participation in curriculum planning and teacher attitudes toward curriculum planning and use, the Curriculum Attitude Inventory (CAI) was developed and tested twice on groups of teachers who had been identified by their principals as having either strong positive or negative attitudes toward curriculum planning. Reliability coefficients of .54 and .66 were obtained between the CAI and principals' ratings. The CAI was then administered to 257 teachers divided into groups according to participation or non-participation in curriculum planning. Results indicated that teachers who had participated in curriculum planning showed a significantly more positive attitude to curriculum planning and use than those who had not participated. (RT)

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DEVELOPMENT OF AN INSTRUMENT TO MEASURE TEACHERS' ATTITUDES TOWARD CURRICULUM USE AND PLANNING*

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The primary preoccupation of educators has been planning for and observing changes in pupils' behaviors and attitudes. Not without importance, however, are the considerations regarding teachers' behaviors and attitudes; what they are and how they can change. The primary concern of this study was the development and subsequent administration of an instrument designed to measure one dimension of teachers' attitudes. It was hoped that an attitude toward curriculum use and planning could be identified, measured, and used as an empirically based factor in theoretical statements about curriculum engineering.

Problem

The problem was to lend empirical support to those generalizations in the curriculum literature that suggest teachers benefit from participating in curriculum planning. (Taba, 1962; Oliver, 1965; Doll, 1965; Inlow, 1966; Saylor and Alexander, 1966; Neagley and Evans, 1967; and Fish, 1968.) The study was an empirical test of the viability of a curriculum system model described by Macdonald (Beck, 1968) and Beauchamp (1968). Although causality between teacher participation in curriculum planning and increase in positiveness of attitudes toward curriculum use and planning cannot be logically inferred from the study, the study has contributed empirical evidence that tests the relationship between participation and attitudes.

Procedure

The procedure followed was: (1) to construct an instrument that discriminated between teachers with positive attitudes toward curriculum use and planning

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and teachers with negative attitudes toward curriculum use and planning; and (2) to determine if teachers in an in-service situation who are or have been participating in curriculum planning, irrespective of grade level or number of years teaching experience, have more positive attitudes toward curriculum use and planning than teachers in service who have never participated in curriculum planning.

Participation in curriculum planning was defined as membership in a formal organized committee designed to plan for the educational experiences of children in school.

Instrument Development

Development of the instrument to measure teachers' attitudes toward curriculum use and planning entailed the following steps. Three hundred and seven statements designed to solicit responses ranging from strongly agree to strongly disagree were written. The usual "cannot decide" option was not included because of the ambiguity of interpreting it as a response. Respondents had to decide whether they agreed or disagreed with each statement and indicate the intensity of their decision on a six point scale.

Statement topics included using a curriculum as a guide for developing instructional strategies, having an on-going curriculum system in a school or district and teacher participation in curriculum planning.

Identification of two diverse groups of teachers was preceded by the random selection of a sample of school principals. The principals nominated those teachers in their buildings who had positive attitudes and negative attitudes toward curriculum use and planning. The following guide was used to facilitate the nominations:

(1) The teacher willingly uses a curriculum for planning his or her classroom activities. As evidenced by:

(a) Reflections of the curriculum in lesson plans.
(b) Classroom observation.
(c) Comments about teaching strategies that indicate use is made of the curriculum.

(2) The teacher makes constructive comments about the curriculum that is used. (This includes criticisms that are basically constructive in nature.)

(3) The teacher indicates an interest in the curriculum system present in the school or district. As evidenced by:
(a) Inquiries about the progress and/or activities of various curriculum committees.
(b) Willingness to read and heed documents produced by such committees.
(c) Suggestions for instituting curriculum committees if none exists.

(4) The teacher volunteers or is at least not obviously reluctant to participate in curriculum planning activities. As evidenced by:
(a) Previous or present involvement in curriculum planning activities that had or have more positive than negative effects on the teacher.

The principals were instructed to nominate only those teachers who met at least three of the four criteria.

Eighty-three inventories were delivered. Forty-five went to teachers nominated as having positive attitudes and thirty-eight to those with negative attitudes. Ninety-five percent of the total returned their inventories.

The general question needed to be answered at this stage was, "Can teachers be distinguished from one another on the basis of their attitude toward curriculum use and planning?" The null hypothesis for each item on the inventory was:

H_1: No difference exists between the proportion of the positive attitude group's responses and the proportion of the negative attitude group's responses.

To maximize differences the responses were bifurcated according to agree or disagree, irrespective of the relative strenghts of the agreements or

disagreements. The proportions of each group agreeing on each item were compared for item selection through the use of the formula designed to compare proportions of samples from a binomial population (Ferguson, 1966).

Instrument Development Results

The null hypothesis was rejected for forty-three items at the .10 level. Seven additional items had discriminating power at the .15 level. In order to increase the length of the inventory without greatly jeopardizing its validity, the additional items were included, thus bringing the total number of discriminating items to fifty. Fifty-eight percent of the items selected received a greater proportion of "agrees" from the positive group than from the negative. Randomization was employed to avoid any pattern of items requiring an "agree" response in the revised edition.

The fifty item inventory was then administered to all the teachers (N = 154) in another district. The inventories were scored using the significant response differences of the positive and negative groups as the key. Hoyt's analysis of variance technique, (Hoyt, 1941), was used to obtain the reliability coefficient and standard error of measurement.

The reliability coefficient was .54, which was considered relatively low, but further inspection of the data revealed a possible explanation. Eighty-one percent of the respondents had participated in curriculum planning, thus making the group of teachers relatively homogeneous in regard to the participation factor. If the relationship between teacher partcipation and more positive attitudes toward curriculum use and planning is positive, and since the size of the reliability coefficient is dependent on the heterogeneity of a sample, then the relatively low estimate of reliability may be explained (Magnusson, 1966).

The standard deviation equalled 6.4 while the standard error of measurement was 3.04, which means greater variability existed among the scores of individuals

than would exist among the theoretical scores obtained by one individual on an infinite number of subsequent administrations. The reliability and standard error estimates were considered adequate enough to proceed with the second part of the study which involved the administration of the Curriculum Attitude Inventory (C.A.I.) to another group of in-service teachers.

Testing the Participation Factor

Preceding the final administration of the C.A.I., all the teachers from a third school district were divided into subclasses according to the following factors: (1) whether or not each teacher had experienced participation in curriculum planning; (2) grade level to which each teacher was assigned (elementary or secondary); and (3) number of years' teaching experience (< 3, 3-10-, > 10). The resultant design was a 2 x 2 x 3 fixed factorial. (Neither the related literature nor the models of a curriculum system accounted for any differentiation of effects from participating in curriculum planning, but differentiation might occur by grade level at which teachers are teaching and/or number of years' teaching experience; therefore grade level and experience were built into the design because they would enable one to make more refined generalizations concerning the effects of teacher participation in curriculum planning.) In order to obtain an optimum size sample for each of the twelve cells the procedure discussed by Johnson and Jackson (1959) which considers mean and variance of the instrument, and population of the cell, was followed. The total number of teachers selected was two hundred and seventy-four.

Participation Test Results

Two hundred and fifty-seven (ninety-three percent) completed and returned their C.A.I.'s. Hoyt's analysis of variance technique was used to determine the

reliability of the C.A.I. in its final administration. The reliability coefficient was .66.

The preliminary tests for normality and homogeneity of variance satisfied the necessary assumptions for the analysis of variance.

The test for interaction and main effects was the analysis of variance using Tsao's solution for unequal cell frequencies (Tsao, 1946).

The hypotheses tested were generated from the question, "Are there differences in attitude toward curriculum use and planning between teachers who have participated and those who have not participated in curriculum planning, irrespective of grade level and length of teaching experience?" The hypotheses were tested at the .05 level.

H_2: No difference exists between the scores of teachers with curriculum participation experience and those of teachers without such experience.

H_3: No difference exists between the scores of teachers on the basis of grade level.

H_4: No difference exists among scores of teachers on the basis of years' of teaching experience.

H_5: No difference exists among scores of teachers with certain combinations of the participation factor and grade levels.

H_6: No difference exists between scores of teachers with certain combinations of participation factor and experiential levels.

H_7: No difference exists among scores of teachers with certain combinations of grade levels and experiential levels.

H_8: No difference exists among scores of teachers with certain combinations of the participation factor, grade level, and experiential levels.

The results of the analysis of variance tests of these hypotheses are reported in Table I.

TABLE I

SUMMARY TABLE FOR THE ANALYSIS OF VARIANCE
TEST OF THE FINAL ADMINISTRATION OF
THE CURRICULUM ATTITUDE INVENTORY

Source of Variation	df	S.S	M.S.	F_1	F_2	F_3
Participation	1	421.2597	421.2597	16.66**	16.66**	16.20**
Grades	1	82.3171	82.3171	3.25	3.22	3.16
Experience	2	106.4320	53.2160	2.10	2.08	2.05
Part. X Gr.	1	32.8922	32.8922	1.30		
Part. X Exp.	2	111.8402	55.9201	2.21		
Gr. X Exp.	2	163.0729	81.5364	3.22*		
P.X G. X E.	2	49.1504	24.5752	<1		
Within	245	6195.2449	25.2867			
$Residual_1$	250	6389.1277	25.5565			
$Residual_2$	252	6552.2006	26.0007			
Total	256	7162.2094				

* $.01 < P < .05$

** $P < .01$

F_1 was calculated with MS_{Within} as the denominator.

F_2 was calculated with $MS_{residual_1}$ as the denominator. It included the pooled SS of PxG, PxE, and Within.

F_3 was calculated with $MS_{residual_2}$ as the denominator. It included the pooled SS of PxG, PxE, GxE, PxGxE, and Within.

The F_2 and F_3 ratios were calculated in order to get a more precise estimate of the main effects.

The hypothesis for the first main effect was:

H_2: No difference exists between the scores of teachers with curriculum participation experience and those of teachers without such experience.

This hypothesis was rejected at the .01 level. Rejection meant there was a significant difference between the C.A.I. scores of teachers who had participation experience and the scores of those who did not have participation experience.

The next hypothesis was:

H_3: No difference exists between the scores of teachers on the basis of grade level.

This hypothesis was not rejected. Failure to reject this hypothesis indicated grade level alone did not significantly affect the scores teachers received on the C.A.I.

The last main effect was:

H_4: No difference exists among the scores of teachers on the basis of years' of teaching experience.

This hypothesis was not rejected. The lack of significant differences among experience levels meant that experience level alone did not affect the scores.

One of the first order interaction hypotheses was:

H_5: No difference exists among scores of teachers with certain combinations of the participation factor and grade levels.

This hypothesis was not rejected. Failure to reject this interaction effect indicated participants scored uniformly higher than non-participants irrespective of grade level.

The next interaction hypothesis was:

H_6: No difference exists between scores of teachers with certain combinations of experiential levels and the participation factor.

This hypothesis was not rejected. The lack of a significant interaction between participation and experience indicated that participants scored uniformly higher than non-participants irrespective of experiential level.

The next interaction hypothesis was:

H_7: No difference exists among scores of teachers with certain combinations of grade levels and experiential levels.

This hypothesis was rejected at the .05 level but not at the .01 level. Since the .05 level was considered significant it can be concluded that certain combinations of grade level and experiential level accounted for differences in scores of teachers irrespective of the participation level. Examination of cell means indicated the 7-12 grade level and 3-10 experiential level combination created the significant interaction.

The final hypothesis was:

H_8: No difference exists among scores of teachers with certain combinations of the participation factor, grade level, and experiential level.

This hypothesis was not rejected. That this higher order interaction was non-significant, indicated no certain combination of all three factors affected the scores of the teachers any more than any other combination.

Summary and Conclusions

The null hypothesis of no difference in the proportions of the positive and negative groups' responses to each of the 307 items was rejected forty-three times at the .10 level and seven additional times at the .15 level. The revised inventory of fifty items yielded a reliability coefficient of .54 when administered to a relatively homogeneous group and a coefficient of .66 when administered to a less homogeneous group.

The conclusion drawn from the first part of the study was that teachers could be differentiated on the basis of their attitudes toward curriculum use

and planning by means of the instrument developed and used in this study.

All but two of the null hypotheses from the second phase of the study were accepted at the .05 level. The hypothesis of the main effect of participation was rejected at the .05 as well as the .01 level, indicating a significant difference in attitude toward curriculum use and planning between teachers who participated in curriculum planning and those who did not. The interaction effect between grade level and experience level was significant at the .05 level but not at the .01 level. This indicated certain levels of grade assignment and experience could not be discounted when considering the effects of participation.

It was evident from the analysis that teachers with curriculum planning experiences had more positive attitudes toward curriculum use and planning, as measured by the C.A.I., than teachers without such experience, but not totally irrespective of grade and experience level. These latter two factors interacted, which necessitated the qualification that teachers in the 7-12 level of grade assignment with 3-10 years of experience are likely to score higher at both levels of participation than other teachers.

The conclusions lend support to the use of a curriculum system model as a directive for research because they indicate an association between participation in curriculum planning and more positive attitudes toward curriculum use and planning.